

* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 10:43:48 ON 03 OCT 2007

=> FILE REG

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

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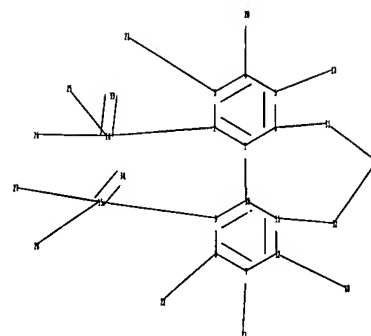
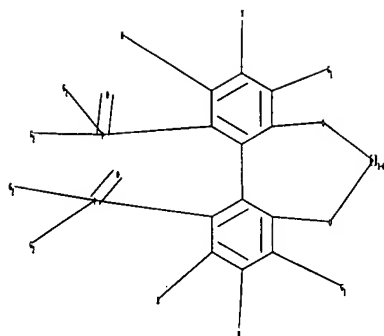
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NEWS 3 JUL 02 SCISEARCH enhanced with complete author names
NEWS 4 JUL 02 CHEMCATS accession numbers revised
NEWS 5 JUL 02 CA/Caplus enhanced with utility model patents from China
NEWS 6 JUL 16 CAplus enhanced with French and German abstracts
NEWS 7 JUL 18 CA/Caplus patent coverage enhanced
NEWS 8 JUL 26 USPATFULL/USPAT2 enhanced with IPC reclassification
NEWS 9 JUL 30 USGENE now available on STN
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patents
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NEWS 24 OCT 02 CA/Caplus enhanced with pre-1907 records from Chemisches
Zentralblatt

NEWS EXPRESS 19 SEPTEMBER 2007: CURRENT WINDOWS VERSION IS V8.2,
CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 19 SEPTEMBER 2007.

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chain nodes :
14 15 17 18 20 21 22 23 25 26 27 28 33 34
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 31 32
chain bonds :
2-14 3-21 4-20 5-17 7-23 8-22 9-15 12-18 14-25 14-26 14-33 15-27 15-28
15-34
ring bonds :
1-2 1-6 1-10 2-3 3-4 4-5 5-6 6-31 7-8 7-12 8-9 9-10 10-11 11-12 11-32
13-31 13-32
exact/norm bonds :
1-2 1-6 1-10 5-17 6-31 10-11 11-12 11-32 12-18 13-31 13-32 14-25 14-26
14-33 15-27 15-28 15-34
exact bonds :
2-14 3-21 4-20 7-23 8-22 9-15
normalized bonds :
2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10

```

G1:H,Cl

G2:Cb,Cy,Ak

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 14:CLASS 15:CLASS 17:CLASS 18:CLASS 20:CLASS
21:CLASS 22:CLASS 23:CLASS 25:CLASS 26:CLASS 27:CLASS 28:CLASS 31:CLASS
32:CLASS 33:CLASS 34:CLASS

L1 STRUCTURE UPLOADED

=> S L1 FULL

FULL SEARCH INITIATED 10:44:41 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 270 TO ITERATE

100.0% PROCESSED 270 ITERATIONS

12 ANSWERS

SEARCH TIME: 00.00.01

L2 12 SEA SSS FUL L1

=> FILE CAPLUS

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

172.55

172.76

FILE 'CAPLUS' ENTERED AT 10:44:51 ON 03 OCT 2007

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

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FILE COVERS 1907 - 3 Oct 2007 VOL 147 ISS 15

FILE LAST UPDATED: 2 Oct 2007 (20071002/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

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=> S L2

L3 5 L2

=> D L3 IBIB ABS HITSTR 1-5

L3 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:328224 CAPLUS

DOCUMENT NUMBER: 145:62371

TITLE: A new class of versatile chiral-bridged atropisomeric diphosphine ligands: remarkably efficient ligand syntheses and their applications in highly enantioselective hydrogenation reactions

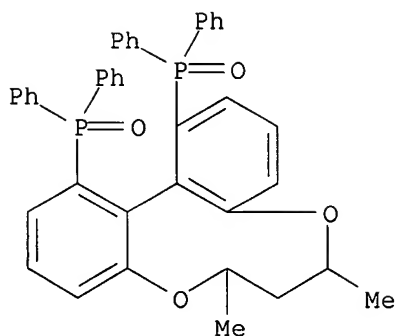
AUTHOR(S): Qiu, Liqin; Kwong, Fuk Yee; Wu, Jing; Lam, Wai Har; Chan, Shusun; Yu, Wing-Yiu; Li, Yue-Ming; Guo, Rongwei; Zhou, Zhongyuan; Chan, Albert S. C.

CORPORATE SOURCE: Open Laboratory of Chirotechnology of the Institute of Molecular Technology for Drug Discovery and Synthesis

and Department of Applied Biology and Chemical
Technology, Hong Kong Polytechnic University, Hong
Kong, Hong Kong
SOURCE: Journal of the American Chemical Society (2006),
128(17), 5955-5965
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
GI

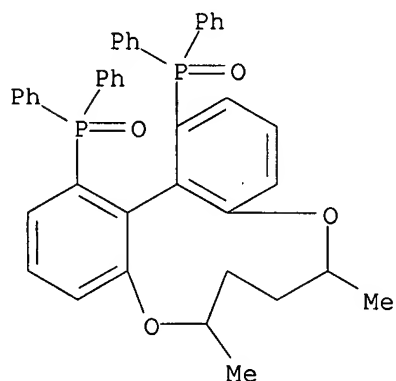
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

- AB A series of chiral diphosphine ligands denoted as PQ-Phos (I, II, and III; $n = 0, 1, 2$) was prepared by atropdiastereoselective Ullmann coupling and ring-closure reactions. The Ullmann coupling reaction of the biaryl diphosphine dioxides (IV; $n =$ same as above) is featured by highly efficient central-to-axial chirality transfer with diastereomeric excess >99%. This substrate-directed diastereomeric biaryl coupling reaction is unprecedented for the preparation of chiral diphosphine dioxides, and our method precludes the tedious resolution procedures usually required for preparing enantiomerically pure diphosphine ligands. The effect of chiral recognition was also revealed in a relevant asym. ring-closure reaction of (S)- or (R)-HO-BIPHEPO (V) or (VI) with chiral alkanediol dimesylate or ditosylate (VII; $R = \text{Ms}$, $n = 0$; $R = \text{Ts}$, $n = 1$ or 2). The chiral tether bridging the two aryl units creates a conformationally rigid scaffold essential for enantiofacial differentiation; fine-tuning of the ligand scaffold (e.g., dihedral angles) can be achieved by varying the chain length of the chiral tether. The enantiomerically pure Ru- and Ir-PQ-Phos complexes have been prepared and applied to the catalytic enantioselective hydrogenations of α - and β -ketoesters (C:O bond reduction) of formula R1COCO2R2 ($\text{R1} = \text{Me}$ or Ph , $\text{R2} = \text{Me}$; $\text{R1} = \text{Me}$, iso-Pr , Ph , or PhCH2CH2) and R1COCHR2CO2R3 ($\text{R1} = \text{Me}$, $\text{R2} = \text{H}$, $\text{R3} = \text{Me}$, Et , or CH2Ph ; $\text{R1} = \text{ClCH2}$ or Ph , $\text{R2} = \text{H}$, $\text{R3} = \text{Et}$; $\text{R1} = \text{Ph}$, $\text{R2} = \text{Cl}$, $\text{R3} = \text{Et}$) to chiral α - or β -hydroxy esters of formula R1CH(OH)CO2R2 and R1CH(OH)CHR2CO2R3 , 2-(6'-methoxy-2'-naphthyl)propenoic acid, alkyl-substituted β -dehydroamino acids (C:C bond reduction) of formula R2O2CCH:C(R1)NHAc ($\text{R1} = \text{Me}$, Et , iso-Pr , or tert-Bu , $\text{R2} = \text{me}$; $\text{R1} = \text{Me}$ or n-Pr , $\text{R2} = \text{Et}$) to chiral β -amino acid esters of formula $\text{R2O2CCH2CHC(R1)NHAc}$, and N-heteroarom. compds. (C:N bond reduction) (VIII; $\text{R1} = \text{Me}$, $\text{R2} = \text{Me}$, H , MeO ; $\text{R1} = \text{Ph}$, $\text{R2} = \text{H}$), (IX), and (X) to chiral heterocyclic compds. (XI), (XII), and (XIII). An excellent level of enantioselection (up to 99.9% ee) has been attained for the catalytic reactions. In addition, the significant ligand dihedral angle effects on the Ir-catalyzed asym. hydrogenation of N-heteroarom. compds. were also revealed.
- IT 827322-49-6DP, ruthenium complexes 827322-52-1DP, ruthenium complexes
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
USES (Uses)
(preparation of versatile chiral-bridged atropisomeric diphosphine ligands by stereoselective ring-closure of (S)- or (R)-HO-BIPHEPO with chiral alkanediol dimesylate or ditosylate)
- RN 827322-49-6 CAPLUS
- CN Phosphine oxide, [(6R,8R,13aS)-7,8-dihydro-6,8-dimethyl-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



RN 827322-52-1 CAPLUS

CN Phosphine oxide, [(6R,9R,14aS)-6,7,8,9-tetrahydro-6,9-dimethyldibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



IT 713543-18-1P 827322-49-6P 827322-52-1P

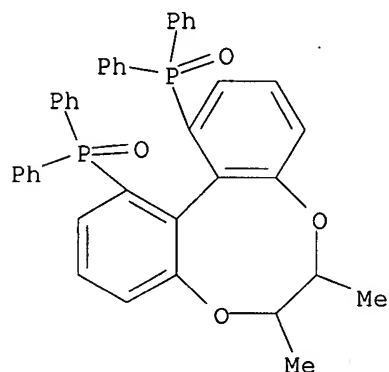
890532-36-2P 890532-38-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of versatile chiral-bridged atropisomeric diphosphine ligands by stereoselective ring-closure of (S)- or (R)-HO-BIPHEPO with chiral alkanediol dimesylate or ditosylate)

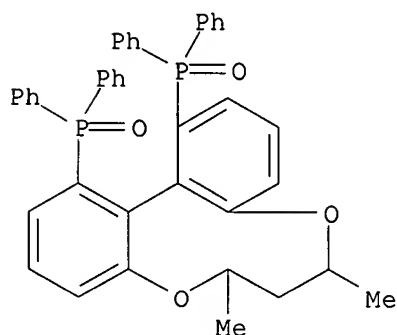
RN 713543-18-1 CAPLUS

CN Phosphine oxide, [(6S,7S,12aR)-6,7-dihydro-6,7-dimethyldibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



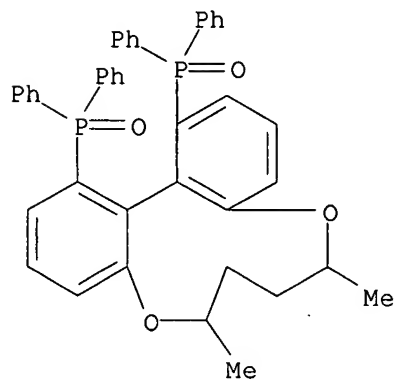
RN 827322-49-6 CAPLUS

CN Phosphine oxide, [(6R,8R,13aS)-7,8-dihydro-6,8-dimethyl-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



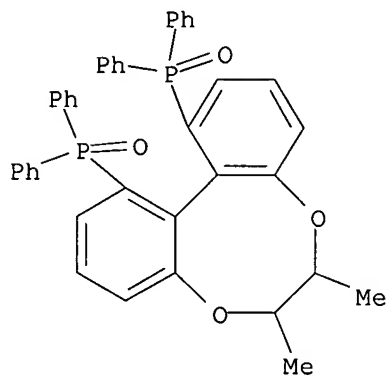
RN 827322-52-1 CAPLUS

CN Phosphine oxide, [(6R,9R,14aS)-6,7,8,9-tetrahydro-6,9-dimethyldibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



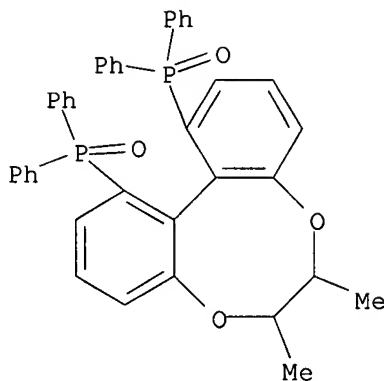
RN 890532-36-2 CAPLUS

CN Phosphine oxide, [(6R,7R,12aS)-6,7-dihydro-6,7-dimethyldibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 890532-38-4 CAPLUS

CN Phosphine oxide, [(6S,7S,12aS)-6,7-dihydro-6,7-dimethyldibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 130 THERE ARE 130 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L3 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:208444 CAPLUS

DOCUMENT NUMBER: 144:450471

TITLE: Diastereospecific Intramolecular Ullmann Couplings: Unique Chiral Auxiliary for the Preparation of 3,3'-Disubstituted MeO-BIPHEP Derivatives

AUTHOR(S): Gorobets, E.; McDonald, R.; Keay, B. A.

CORPORATE SOURCE: Department of Chemistry, University of Calgary, Calgary, T2N 1N4, Can.

SOURCE: Organic Letters (2006), 8(7), 1483-1485
CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 144:450471

AB A chiral auxiliary is described that provides only one diastereomer during intramol. Ullmann couplings. Treatment of five Ullmann coupling precursors with Cu powder in DMF at 115 °C provides 2,2',3,3',6,6'-hexasubstituted 1,1'-biphenyls as single diastereomers in yields ranging from 66% to 91%.

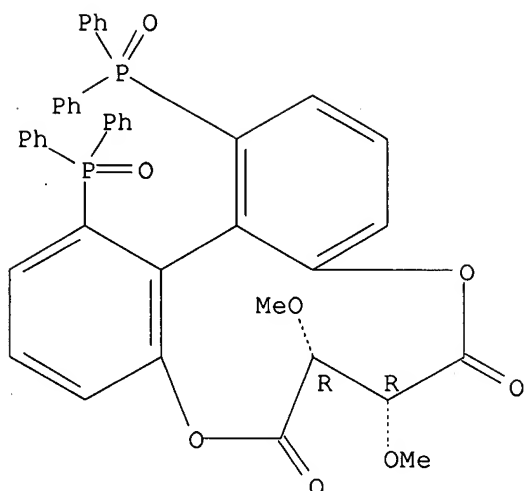
IT 885722-57-6P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of 3,3'-disubstituted MeO-BIPHEP derivs. by diastereospecific intramol. Ullmann couplings using a unique chiral auxiliary)

RN 885722-57-6 CAPLUS

CN Dibenzo[b,d][1,6]dioxecin-6,9-dione, 1,14-bis(diphenylphosphinyl)-7,8-dihydro-7,8-dimethoxy-, (7R,8R)- (CA INDEX NAME)

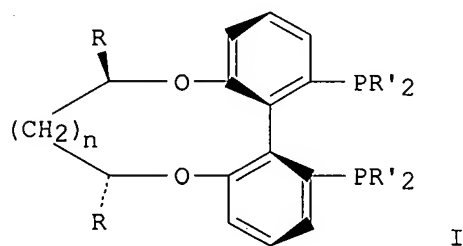
Absolute stereochemistry.



REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:58129 CAPLUS
 DOCUMENT NUMBER: 142:137081
 TITLE: Preparation of biphenyldiphosphine compounds useful in asymmetric reactions
 INVENTOR(S): Chan, Albert Sun-chi; Qiu, Liqin
 PATENT ASSIGNEE(S): The Hong Kong Polytechnic University, Hong Kong
 SOURCE: U.S. Pat. Appl. Publ., 18 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005014633	A1	20050120	US 2004-888820	20040709
US 7094725	B2	20060822		
PRIORITY APPLN. INFO.:			US 2003-486496P	P 20030711
OTHER SOURCE(S):	MARPAT 142:137081			
GI				



AB The present invention provides compds. of the formula I wherein R = optionally substituted lower alkyl, cycloalkyl or aryl; R' = alkyl or aryl; n = 0, 1, or 2; or an enantiomer thereof; or an enantiomeric mixture thereof. The compds. of formula I are bridged C2-sym. biphenyldiphosphine analogs and, thus, may be employed as ligands to generate chiral transition metal catalysts which may be applied in a variety of asym. reactions. The compds. of the present invention are easily accessible in

high diastereomeric and optical purity according to the methods disclosed herein.

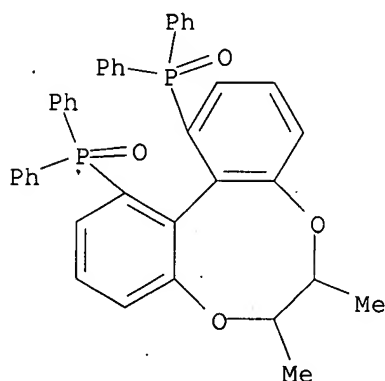
IT 713543-18-1P 827322-49-6P 827322-52-1P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(preparation of biphenyldiphosphine compds. useful in asym. reactions)

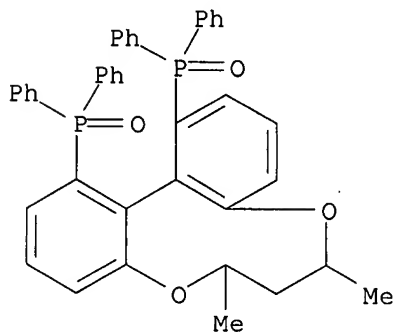
RN 713543-18-1 CAPLUS

CN Phosphine oxide, [(6S,7S,12aR)-6,7-dihydro-6,7-dimethyldibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



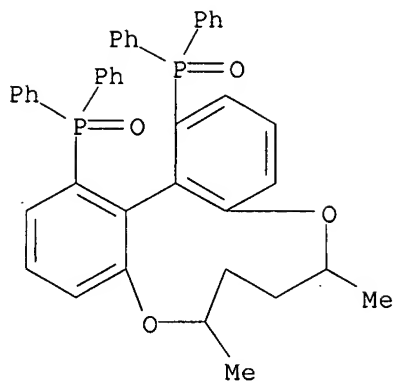
RN 827322-49-6 CAPLUS

CN Phosphine oxide, [(6R,8R,13aS)-7,8-dihydro-6,8-dimethyl-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



RN 827322-52-1 CAPLUS

CN Phosphine oxide, [(6R,9R,14aS)-6,7,8,9-tetrahydro-6,9-dimethyldibenzo[b,d][1,6]dioxecin-1,14-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



L3 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:356395 CAPLUS

DOCUMENT NUMBER: 141:88901

TITLE: Remarkably diastereoselective synthesis of a chiral biphenyl diphosphine ligand and its application in asymmetric hydrogenation

AUTHOR(S): Qiu, Liqin; Wu, Jing; Chan, Shusun; Au-Yeung, Terry T.-L.; Ji, Jian-Xin; Guo, Rongwei; Pai, Cheng-Chao; Zhou, Zhongyuan; Li, Xingshu; Fan, Qing-Hua; Chan, Albert S. C.

CORPORATE SOURCE: Open Laboratory of Chirotechnology of the Institute of Molecular Technology for Drug Discovery and Synthesis and Department of Applied Biology and Chemical Technology, The Hong Kong Polytechnic University, Kowloon, Hong Kong

SOURCE: Proceedings of the National Academy of Sciences of the United States of America (2004), 101(16), 5815-5820

CODEN: PNASA6; ISSN: 0027-8424

PUBLISHER: National Academy of Sciences

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:88901

AB Essentially complete atropdiastereoselectivity was realized in the preparation of biaryl diphosphine dioxide by asym. intramol. Ullmann coupling and oxidative coupling with central-to-axial chirality transfer. A bridged C2-sym. biphenylphosphine ligand possessing addnl. chiral centers on the linking unit of the biphenyl groups was synthesized. No resolution step was required for the preparation of the enantiomerically pure chiral ligand. These findings offer a general and practical tool for the development of previously uninvestigated atropdiastereomeric biaryl phosphine ligands. The diphosphine ligand was highly effective in the asym. hydrogenation of α - and β -keto esters, 2-(6'-methoxy-2'-naphthyl)propenoic acid, β -(acylamino)acrylates, and enol acetates.

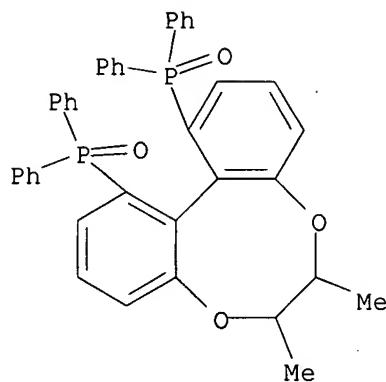
IT 713543-18-1P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(stereoselective synthesis of a chiral biphenyl diphosphine ligand for asym. hydrogenation)

RN 713543-18-1 CAPLUS

CN Phosphine oxide, [(6S,7S,12aR)-6,7-dihydro-6,7-dimethyldibenzo[e,g][1,4]dioxocin-1,12-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



REFERENCE COUNT: 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:319498 CAPLUS

DOCUMENT NUMBER: 134:326631

TITLE: Optically active diphosphine compound, production intermediates therefor, transition metal complex containing the compound as ligand and asymmetric hydrogenation catalyst containing the complex

INVENTOR(S): Yokozawa, Tohru; Sayo, Noboru; Saito, Takao; Ishizaki, Takero

PATENT ASSIGNEE(S): Takasago International Corporation, Japan

SOURCE: Eur. Pat. Appl., 19 pp.

CODEN: EPXXDW

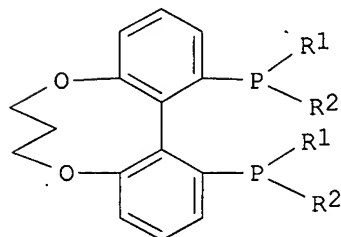
DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1095946	A1	20010502	EP 2000-402997	20001027
EP 1095946	B1	20030827		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2001131192	A	20010515	JP 1999-309976	19991029
AT 248181	T	20030915	AT 2000-402997	20001027
ES 2206162	T3	20040516	ES 2000-402997	20001027
US 6333291	B1	20011225	US 2000-698208	20001030
PRIORITY APPLN. INFO.:			JP 1999-309976	A 19991029
OTHER SOURCE(S):	MARPAT 134:326631			
GI				

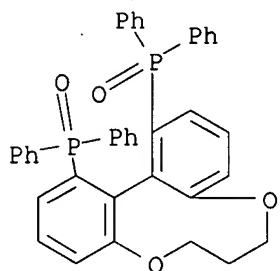


AB This invention provides a novel diphosphine compound which is useful as a ligand of catalysts for asym. synthesis reactions, particularly asym. hydrogenation reaction. Particularly, it provides a diphosphine compound I (R1, R2 = each independently represents a cycloalkyl group, an unsubstituted or substituted Ph group or a five-membered aromatic heterocycle residue). Thus, reaction of I (L, R1 = R2 = Ph), prepared in 5 steps starting from 3-bromophenol, with [Ru(p-cymene)I2]2 gave [RuI(p-cymene)(L)] which was used as catalyst for asym. hydrogenation of Me benzoylacetate.

IT 336879-57-3P 336879-61-9P 336879-64-2P
 337359-57-6P 337359-58-7P 337359-60-1P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (ruthenium complex with optically active diphosphine ligand catalyzed asym. hydrogenation of)

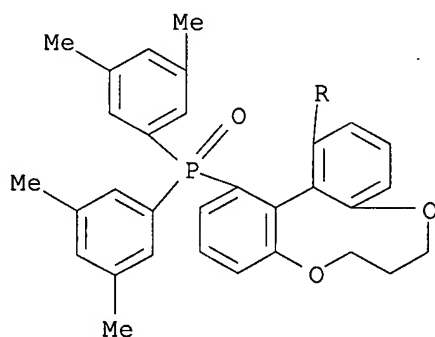
RN 336879-57-3 CAPLUS

CN Phosphine oxide, (7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)



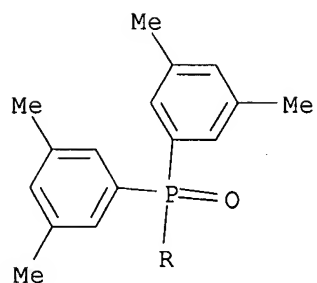
RN 336879-61-9 CAPLUS

CN Phosphine oxide, (7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl)bis[bis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)



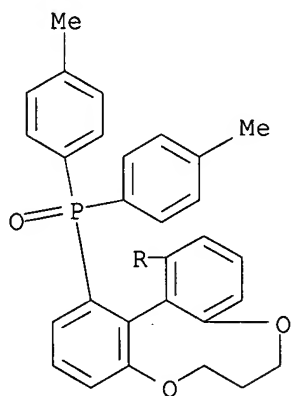
PAGE 1-A

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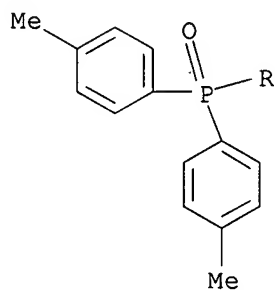


RN 336879-64-2 CAPLUS
CN Phosphine oxide, (7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl)bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

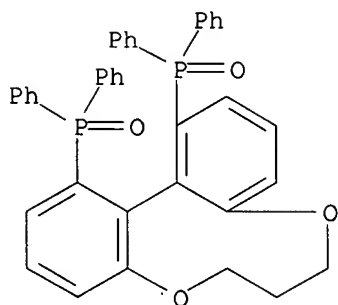
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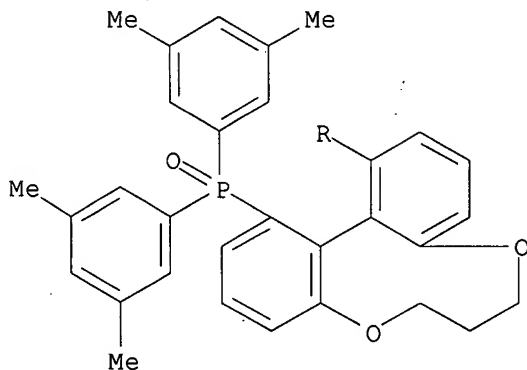


RN 337359-57-6 CAPLUS
CN Phosphine oxide, (7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl)bis[diphenyl-, (-)- (9CI) (CA INDEX NAME)

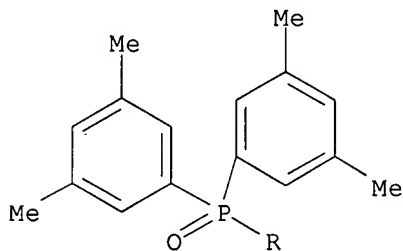


RN 337359-58-7 CAPLUS
 CN Phosphine oxide, (7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl)bis[bis(3,5-dimethylphenyl)-, (-)- (9CI) (CA INDEX NAME)

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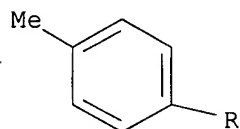
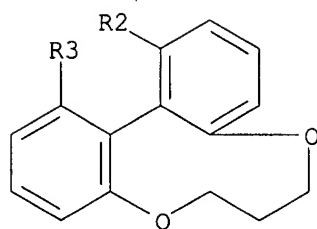


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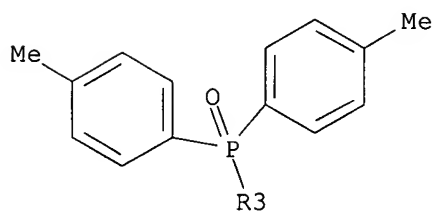
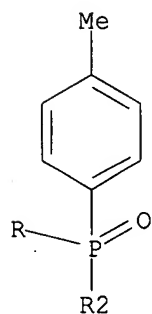


RN 337359-60-1 CAPLUS
 CN Phosphine oxide, (7,8-dihydro-6H-dibenzo[f,h][1,5]dioxonin-1,13-diyl)bis[bis(4-methylphenyl)-, (-)- (9CI) (CA INDEX NAME)

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REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=>

---Logging off of STN---

=>

Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS

SINCE FILE
ENTRY

TOTAL
SESSION

FULL ESTIMATED COST

27.29

200.05

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

-3.90

-3.90

STN INTERNATIONAL LOGOFF AT 10:45:51 ON 03 OCT 2007